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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/657,603	09/08/2003	Manfred Greschitz	L&L-I0183	1769

24131 7590 10/21/2004  
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EXAMINER

LE, BRIAN Q

ART UNIT PAPER NUMBER

2623

DATE MAILED: 10/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/657,603

Applicant(s)

GRESCHITZ ET AL.

Examiner

Brian Q Le

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>09/08/2003</u> . | 6) <input type="checkbox"/> Other: ____.  |

*Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3, 5-7, 9-11, and 13-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Setlak WO 98/52157.

Regarding claim 1, Setlak teaches a fingerprint sensor (page 1, first 2 lines), comprising:

a contact surface for contacting an underside of a finger and for recording a fingerprint of the finger (FIG. 1-3 and page 5, lines 10-15);

a plurality of sensor electrodes mounted below said contact surface (separate by the insulting layer) (page 5, last paragraph); and

at least one protective electrode mounted on or in said contact surface, said protective electrode incompletely covering said plurality of sensor electrodes (FIG. 5-6, element 80);

said plurality of sensor electrodes for obtaining a first AC voltage A (page 3, last paragraph) at a prescribed frequency (page 5, last paragraph);

said protective electrode for obtaining a second AC voltage (page 3, last paragraph) essentially at the prescribed frequency (page 5, last paragraph);

the second AC voltage having an amplitude being greater than a supply voltage for the fingerprint sensor (Voffset with a settable range would be able to create an amplitude greater than a supply voltage, Vref) (page 13, lines 15-21).

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Regarding claim 2, Setlak further teaches the fingerprint sensor according wherein said protective electrode is formed as a grating, a grid, or a strip (FIG. 5-6, element 80).

For claim 3, Setlak also teaches the fingerprint sensor wherein:  
the first AC voltage has a settable amplitude (range) and the amplitude of the second AC voltage is settable (settable range) ((page 3, lines 23-30); and  
the amplitude of the second AC voltage is greater than the amplitude of the first AC voltage (as explained in claim 1 of how  $V_{offset} > V_{ref}$ ) (page 13, lines 15-21).

Regarding claim 5, please refer back to claims 1 and 3 for the teachings and explanations.

For claim 6, please refer back to claim 2 for the teaching.

Referring to claim 7, please refer back to claim 3 for the teaching and explanation.

For claim 9, please refer back to claim 1 for the teachings and explanation.

For claim 10, please refer back to claim 2 for the teaching.

Regarding claim 11, please refer back to claim 3 for the teachings and explanation.

Referring to claim 13, please refer back to claims 1 and 3 for the teachings and explanations.

For claim 14, please refer back to claim 2 for the teaching.

Regarding claim 15, please refer back to claim 3 for the teachings and explanations.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 4, 8, 12 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Setlak WO 98/52157 and further in view of Kramer U.S. Patent No. 6,512,381.

Regarding claim 4, Setlak teaches a method for optimizing the sensitivity of a fingerprint sensor (page 14, lines 6-19), which comprises:

providing the fingerprint sensor according to claim 1 (please refer back to the explanation of claim 1); and

the sensitivity (the sensing ability of ridges and valleys) is determined by a local resolution of the fingerprint sensor (resolution of A/D converters which are signals from the sensor) (page 13, lines 22-27).

Setlak does not teach the setting of at least one of the amplitude of the second AC voltage and a phase of the second AC voltage such that a sensitivity of the fingerprint sensor assumes a maximum value. Kramer teaches a method of improving the sensitivity of the fingerprint sensor (abstract, first line) wherein the amplitude of voltage and phase of voltage (difference between the highest possible output voltage and the lowest possible output voltage during a measurement) such that sensitivity of the fingerprint sensor assumes maximum value (column 6, lines 25-39). Modifying Setlak's method of improving the sensitivity of the fingerprint sensor according to Kramer would be able to determine the sensitivity of the sensor based on the ability to distinguish between maximum signal output and the minimum signal output (column 6, lines 25-28). This would improve processing and therefore, it would have been obvious to one of ordinary skill in the art to modify Setlak according to Kramer.

For claims 8, 12 and 16, please refer back to claim 4 for the teachings and explanations.

### *CONCLUSION*

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents are cited to further show the state of the art with respect to fingerprint sensor processing and optimization:

U.S. Pat. No. 6,259,804 to Setlak, teaches fingerprint sensor with gain control features and associated methods.

U.S. Pat. No. 6,088,471 to Setlak, teaches fingerprint sensor including an anisotropic dielectric coating and associated methods.

U.S. Pat. No. 6,647,133 to Morita, teaches fingerprint identification device-equip with a touch sensor for detecting a human finger.

U.S. Pat. No. 6,343,140 to Brooks, teaches method for shooting using biometric recognition.

U.S. Pat. No. 5,325,442 to Knapp, teaches fingerprint sensing device and recognition system having predetermined electrode activation.

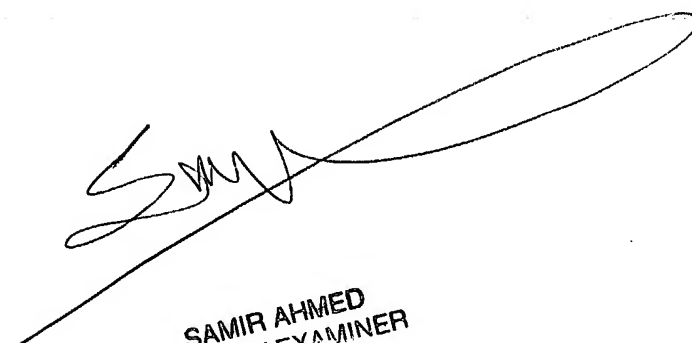
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6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Q Le whose telephone number is 703-305-5083. The examiner can normally be reached on 8:30 A.M - 5:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on 703-308-6604. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to TC Customer Service whose telephone number is 703-306-0377.

BL  
October 6, 2004



SAMIR AHMED  
PRIMARY EXAMINER